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The Army's Interest in Space Control

By Charlotte Scharer
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The Army is critically dependent on Space capabilities to enable and enhance land warfare. Virtually every Army operation uses Space capabilities to some degree. Today, we use Space largely for its ability to enhance the effectiveness of our combat forces. We can communicate; navigate; target, find, and fix the enemy; anticipate weather; and protect our forces based on combat and support assets available from Space. We also strive to control Space so adversaries cannot overcome our asymmetrical advantages in Space. Space provides tremendous leverage to the Army's land warfare capability.

The Army views Space as a vertical extension of the battlefield and an integral part of the battlespace, one that has been especially instrumental during the ongoing Global War on Terrorism. The Army's transformation also integrates Space into all phases of planning and operations as a core element of that process. The Army's future force, serving as part of the joint force, will be even more adaptable and lethal, leveraging the capabilities of the ultimate high ground. The nature of warfighting is changing rapidly, and the Army's strategic role in Space is evolving as a result.

Our dependence on Space will increase in the future as Space-based capabilities enable the future force concepts of information superiority, enhanced situational awareness and high-tempo, non-contiguous operations. Space use will increase as technology propels us toward more flexible and less expensive access, and development of more comprehensive Space warfighting tools. History and the march of technology tell us that the time will come when we use Space not only to enhance land warfighting capabilities, but also for direct combat, in other words, force application from Space.

However, U.S. dominance in Space is not guaranteed. The rapid growth in commercial Space capabilities increases our adversaries' ability to monitor our forces and potentially negate our advantages in Space. Numerous nations have Space programs, and the proliferation of commercial Space systems continues. Many of those systems have potential military utility, such as targeting, intelligence and communications. Our enemies might probe our Space systems for vulnerabilities or alter the Space environment to disrupt or deny our Space operations. They might gain access to our systems and corrupt or exploit data for hostile purposes.

Virtually any terrorist with a credit card can purchase Space support. Adversaries no longer need to develop their own Space capabilities or programs. These worldwide changes in the availability of Space capabilities have unacceptable consequences for our land forces. Consequently, the Army, in conjunction with the Department of Defense, is implementing a broad campaign to protect our vested interest in Space by contributing to the U.S. capability for Space control.

The Army's approach to engaging in Space control activities holds that Space control is a joint mission. Space control operations ensure freedom of action in Space for the United States and its allies and, when directed, deny an adversary freedom of action in Space. Space control includes offensive and defen-

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sive operations by friendly forces to gain and maintain Space superiority and situational awareness of events that impact land warfare operations. Space control involves five interrelated objectives:

- Surveillance of Space to be aware of the presence of Space assets and understand real-time satellite mission operations.
- Protect U.S. and friendly Space systems from hostile actions.
- Prevent unauthorized access to, and exploitation of, Space systems.
- Negate hostile Space systems that place U.S. interests at risk.
- Directly support battle management, command, control, communications and intelligence.

The Army's concept of operations for Space control in support of the future force consists of the following essential tasks:

- Enable continuous information and decision superiority.
- Protect the force during all phases of the operation.
- Support precision maneuver, fires, sustainment and information.
- Achieve situational understanding "off the ramp" during entry operations.
- Support increased deployability and reduced theater footprint.

The Army participates in development of these operational elements by directing its limited Space resources to initiatives addressing specific land force needs or leveraging the Army's traditional competencies in ground-based operations to support joint needs. A two-pronged approach to Space control has emerged:

- Army investment in selected multi-agency or joint Space control initiatives.
- Development of Army capabilities into Space control capable systems.

Bottom line: Space control is Army business. The Army has a vested interest in Space superiority, just as it has in other areas critical to mission accomplishment. Future battles for Space superiority will be intertwined with information warfare and often fought from the ground. Accordingly, the Army's interest and contributions to Space control are numerous and continue to grow. Based on this assessment of the Space control environment, the Army is pushing hard to help secure and maintain U.S. dominance in the vertical extension of the battlefield.

Charlotte Scharer serves as the Space branch general engineer for the Future Warfare Center. She has had the opportunity to participate in many Space and Space control efforts and has successfully performed as a key government technical contributor on a broad spectrum of force development and integration topics. She is responsible for developing Army Space requirements for the capabilities development division.

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